

## **Driving with Cell Phones: What Have Highway Safety Researchers Learned**

My name is Fran Bents, and I have been involved in highway safety research since 1975. I began my career with the National Highway Traffic Safety Administration's Accident Investigation Division where I served for 11 years. In 1986, I joined Dynamic Science, Inc, a privately owned company that conducts highway safety research for government and industry sponsors.

I am here today because I am a co-author of the Department of Transportation's 1997 report entitled "An Investigation of the Safety Implications of Wireless Communications in Vehicles", and because of my involvement in crash investigation research. I review hundreds of crash investigation reports every year. I have seen the faces of the dead, I know the stories of the injured, and I believe that the use of cell phones by drivers creates an unnecessary risk to the driving public.

In gathering the information presented in the federal report on in-vehicle use of electronic devices by drivers, we focused on cellular telephones because there were few other devices available at that time. In fact, the number of subscribers was 50 million then as compared to the reported 95 million U.S. - subscribers today. The use of cell phones in cars was relatively new - at least for non-business users - but was growing rapidly. A Prevention Magazine survey in 1995 reported that 85% of cell phone owners use their phones while driving at least some of the time. If such statistics hold true, there are now about 81 million drivers talking on their phones while driving, and about 10 million of these use the phone during every trip.

The National Highway Traffic Safety Administration reports that they receive more complaints and requests for information about cell phone use than any other driving issue. Part of the reason is surely because cell phone users are readily visible to other drivers, at least in the hand held mode. In fact, I would venture to say that everyone in this room has either had a near-crash experience with a cell phone user, or has witnessed risky behavior of some sort. The concerns about the safety of such driving are growing, and the frequent requests for information and guidance that formed the impetus for the report in 1995, continue. This conference reflects our national concern.

Today, not only is cell phone use by drivers common, but industry plans to broadly expand the availability of a multitude of in-vehicle communications devices for e-mail, Internet access, electronic navigation and so forth are gaining momentum. We know that as a society we CAN provide the means to keep in touch with family and friends, conduct business deals, entertain ourselves, or order a carry out dinner while driving our cars, but the important question that has not been adequately addressed is SHOULD WE.

The 1997 DOT report talks about the challenges of collecting data following a highway crash. There are no good statistics on the number of deaths and injuries which can be attributed to cell phone using drivers. There are a number of reasons for this. Most highway safety data is based, at least in part, on police reports. When an officer responds to the scene of a crash, he has three primary duties: to tend to the injured, to restore the flow of traffic, and to issue citations for violations of law. It is not unlawful in any state to use a cell phone while driving. Therefore, there is no incentive for an officer to note cell

phone use.

In Minnesota and Oklahoma, and now in Pennsylvania, state officials are attempting to capture cell phone use in their accident reports. In examining the data, it is clear that they have failed to do so. The data elements sometimes are not well defined. In Oklahoma, they do not make a distinction between cell phone use prior to a crash, and emergency notification calls. The use of portable phones can be easily concealed following a crash, and culpable drivers cannot be expected to admit that their phone use was a contributing factor. While at the scene of a crash, it is unreasonable to expect that a police officer will conduct a thorough search of the vehicle and of the occupants to determine whether a cell phone had been available or used given his other duties.

Even for professional crash investigators, it is difficult to detect phone use by drivers. Unless the driver admits to such use (which does not happen frequently), a phone is readily in view, or a witness steps forward, there is no way to establish such use in the absence of phone records. Such records have not been made available to the research community except for one small study in Canada.

In the DOT report, we also attempted to examine broad based data files compiled by the federal government. These include the Fatal Analysis Reporting System (FARS), and the National Automotive Sampling System (NASS). For both of these data systems, all data about cell phone use are derived from the narrative portions of police accident reports. The inclusion of such data is dependent upon the initiative shown by the police officer who responded to the crash.

The Fatal Analysis Reporting System included about 40 cell phone related crashes for 1994 and for 1995. Half of these were reported by Oklahoma, but could not be verified as previously explained. The few cases reported by the other states are considered to be accurate, if underrepresented. They contained some interesting similarities. The citations issued to cell phone-using drivers involved in these fatal crashes were disproportionately high for "inattention" when compared to all drivers included in FARS. In virtually all crashes, the cell- phone-using drivers were in the striking vehicle. When the type of crash is examined, they fall into two categories - drivers striking something in front of them, or leaving their lane of traffic. This pattern is repeated every day on our highways.

The data contained in the 1995 National Automotive Sampling System file followed a similar pattern. Five of the eight drivers struck something stopped in front of them. Three other drivers left their lane of travel and struck a vehicle or object. In these eight crashes, six of the drivers were engaged in conversation, one was dialing his phone, and one was hanging up. Of the six engaged in conversation, two of the drivers were using mounted phones in a hands-free mode. What is common among all these crashes is driver inattention. These drivers were not presented with changing situations which required emergency maneuvers, they simply failed to control their vehicles during routine driving conditions.

DSI also attempted to prospectively collect crash data in support of the federal report. We asked several police departments in Maryland, the District of Columbia and Northern Virginia to notify us when a cell-phone related crash was identified. Five such crashes were reported during a six month period. In two of these cases, the drivers struck a vehicle in front of them. In three other cases the

drivers ran off the road. Two of these drivers were startled when their phones rang, and left their lanes as a result. One mother killed her daughter when their vehicle struck a tree as she reached for her phone.

What is striking about all the recorded cell phone-related crashes is that they fall into the two categories of striking something in front of them, or leaving their lane of traffic. They do not reflect the pattern of all crashes which also include intersection collisions, rear ends and rollovers. Something is different about cell phone crashes, and I suggest to you that it is driver inattention.

A lack of statistical data about a problem, is not the same thing as a lack of evidence. We have all seen letters to the editor, items in popular newspaper columns, editorials, and even advertisements such as this one in a recent Sunday paper which states, [and I quote]"Chances are you've seen people driving down the road cradling a cell phone on their shoulder, as they try to carry on a conversation while navigating traffic..... You've seen them drifting across the center line while they're talking on the phone" [end of quote]. As a society, we recognize this issue as a safety problem, and we are concerned.

When something is dangerous, we expect laws to be passed for our protection. In more than half our states this year, legislators have introduced bills to limit cell phone use by drivers. These legislators are responding to constituent demands for protective laws, but no bills have passed. We have to ask, "why".

Industry lobbyists argue that specific cell phone laws are not needed because every state has careless driving laws already on the books. When I was a federal employee, I heard the same arguments presented by the liquor industry - there are enough laws, a drunk driving law would be unenforceable, reasonable people don't drink and drive.

In fact, when tougher laws such as lowering legal limits for blood alcohol content, raising the drinking age back up to 21, and authorizing administrative license revocations were passed, the number of motor vehicle occupant deaths and injuries caused by drunk drivers was dramatically reduced.

I suggest that there are some behaviors such as drinking or phoning while driving that are so commonplace, and yet so potentially dangerous that they require special laws. Laws are effective in two ways: they establish appropriate punishment for willful behavior, and they create guidelines for law abiding citizens. Under current careless driving laws, a cell phone using driver who kills someone in a crash will receive a \$50 fine in most states. Is this appropriate?

After drunk driving laws were passed, the public learned that drinking more than one alcoholic beverage per hour influenced their ability to drive. Many law abiding people modified their drinking habits as a result. The public also needs to learn that talking on the phone while operating their vehicles impedes their performance. I know they will respond by making necessary calls while their vehicles are stopped in safe locations. Without laws, this message will never be delivered.

Should drivers keep both hands on the wheel. Any reasonable person would say, "of course." The more challenging issue is whether a driver should devote his full and uninterrupted attention to driving. This leads us to the question of what constitutes inattention, and how much is too much.

Human Factors experts tell us that there are basically four kinds of driving distractions. The first is *visual*. Looking away from the roadway would be an example of this. The second is *biomechanical*. This would include manipulating a control - such as dialing a phone or adjusting a radio, and can often be associated with a visual distraction. The third is *auditory* - such as being startled by a ringing phone, and the fourth is *cognitive*. Let me give you an example. We have all had the experience of traveling from point A to point B and then realizing that we aren't sure how we got there or what happened in between. Being "lost in thought" or being in focused conversation with someone causes us to withdraw from situational awareness.

Researchers are beginning to obtain evidence that shifting from hand held to hands-free phone use while driving does not result in eliminating all cell phone distractions. It addresses the visual and mechanical distractions, but does not address auditory and cognitive issues.

This raises the question, "How is conversing on a phone different than talking with a passenger in the vehicle?" There are two important differences. The first is that a passenger in a vehicle is aware of the driving situation and can even serve as an additional look-out for hazards. If there is a needed pause in conversation, the reasons are evident.

The second is that phone use seems to carry a certain obligation of immediacy. When the phone rings, we feel compelled to answer it - whether it is convenient, safe or appropriate to do so. We become focused on the phone call, and lose the situational awareness so necessary for safe driving. As we saw in the earlier examples of crashes, drivers then proceed to leave their lanes of travel, or strike objects in front of them, including trains and buses.

I have been asked whether drivers might be able to improve their driving performance while using the phone if they have additional practice. My response is this: By the time people become licensed drivers, they have had at least 10 years of experience talking on a telephone. If someone attempts to get our attention while we are on the phone, we generally respond in one of two ways - we wave them off, or we interrupt our call to deal with the new demand. If we are talking on a cell phone, the activity that we are waving off is the control of the automobile. Practice doesn't seem to make a difference when it comes to the attention demands of phone use.

The Cellular Telecommunications Industry Association told us in 1995 that an average cell phone call lasts 2.15 minutes. With the reduction in phone rates, perhaps calls are even longer today. At average highway speeds, a vehicle will travel nearly three miles during a 2 1/2 minute span. Data shows that traffic speeds are at an all time high, the number of vehicles sold in recent years has

reached new records, the increase in traffic congestion is spawning new problems commonly referred to as road rage. Should we allow non-essential communications and entertainment devices that produce cognitive distractions to be used by drivers under these conditions?

Industry argues that cellular telephones are important devices for reporting emergencies. This is absolutely true, and the law enforcement community supports such use. But emergency calls can and should be made from stopped vehicles. Indeed, most calls relate to witnessing a crash. Under such circumstances, traffic is often stopped, and witnesses attempt to render aid.

The cellular telephone industry often demonstrates their commitment to promoting safety for their customers through the use of information packets included with product purchases or customer billing, and through the occasional television ad. All industries include caveats for product use in the literature that accompanies products. Most of us don't read any of it because we know it is provided to protect companies during litigation.

I challenge cellular phone service providers to do more. I suggest that they not only participate, but sponsor field research in which the police reports of motor vehicle crashes are matched to phone use records for all individuals in a broad geographic area. The use of cell phones to report emergencies could be highlighted since such emergency response calls are made to established numbers. Such an epidemiologic study would provide all of us with the information that we lack on the frequency with which cell phone use is related to motor vehicle crashes and to emergency response.

This proposed study should be conducted by a neutral third party, and would only establish a correlation of cell phone use and crashes, not causation. It also would move the discussion forward from anecdotal information presented by victims who have suffered losses, and beyond industry claims that a problem does not exist.

The January/February issue of *Traffic Safety*, published by the National Safety Council includes an article entitled, "Employees Behind the Wheel". While it does not include information about cellular telephone use, it does make two important points. The first is that a study conducted by the Network of Employers for Traffic Safety found that 40% of the 70,000 workers in two companies had missed time at work during the previous year due to a car crash. This is a statistic to which business owners will respond.

The second point is that employer sponsored safe driving programs make good sense. But according to a quote from Susan Herbal. "If they are not required to do it by law, they don't"- Cell phone industry representatives argue that education is needed to ensure the safe use of cell phones while driving. Let's look at some of the slogans offered by industry: "Use Your Cell Phone Safely While You Drive", and "Safety is Your Most Important Call". Do we hear positive usage messages here? Have we ever heard industry say, "Hang up and drive". Are these types of slogans likely to really educate the public about the dangers of cognitive distraction?

The logic then follows that if using a cell phone while driving were dangerous, we would have laws telling us not to do so. Many European nations, Australia, Japan and others have passed and do enforce such laws. These nations did not wait until they had amassed statistics or injured victims before they took action. They recognized that a problem exists and they passed laws to protect their citizens. I urge our states to do the same.